

REMARKS

Applicants appreciate the thoroughness with which the Examiner has examined the above-identified application. Reconsideration is requested in view of the amendments above and the remarks below.

Restriction Requirement

Pursuant to a restriction requirement, and during a telephone conversation between Examiner Jessica Rossi and Attorney Peter Peterson on August 26, 2003, a provisional election was made with traverse to prosecute the invention of Group I, claims 1-7, 14 and 15. Applicants elect Group I, and withdraw claims 8-13 from further consideration herein.

Title Revision

The Examiner has stated that the title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed. The claims to repairing an opening in a coating on a substrate (claims 8-10) and to applying a coating or covering to a weld joint (claims 11-13) have been withdrawn. Consequently, applicants have modified the title to be indicative of the claimed invention of claims 1-7, 14 and 15, to wit: a method for inductively heating a coated substrate.

Specification Changes

Certain paragraphs of the specification have been amended to refer to the international application WO 02/30653 published April 18, 2002. The U.S. patent application previously referred to has been abandoned.

Rejection under 35 U.S.C. § 103

Claims 1-7, 14 and 15 stand rejected under 35 U.S.C. § 103 as being unpatentable over Yoshida (JP 3-244527), in view of Shiozaki (U.S. Patent No. 5,504,308) or Buckley, et al. (U.S. Patent No. 5,919,387). Applicants respectfully traverse this rejection.

The invention is used in the course of heating a substrate, such as a steel pipe having a coating, for example, a polyolefin based corrosion-resistant coating. The invention is especially advantageous where such heating is to be carried out in the field at a remote site, for example, at a site where the pipe is being laid. Purposes for heating the metal pipe and the coating include applying a repair covering or coating, or applying a heat shrinkable sleeve covering, to name a few. Inductive heaters that heat up the metal pipe or other substrate are particularly advantageous since they heat the pipe rapidly. Large capacity inductive heaters are

available that are weatherproof and can be used in inclement weather conditions. In order to obtain adequate bonding or fusing between the main line coating on the pipe and the coating or covering that is to be applied, it is necessary to raise the exterior surface of the main line coating to an activation temperature. Where the main line coating is relatively thick and the activation temperature is relatively high, as it may be with certain types of polyolefin, such as polypropylene-based materials, inductive heating is incapable of raising the exterior surface of the coating to the desired temperature without prolonged and intensive induction heating that tends to excessively heat the steel substrate, with the result that the coating components degrade, deform, and decompose. Specification, p.1, 11.8-24.

The invention, using an auxiliary inductively heatable susceptor element applied on the main line coating, is well illustrated in the specification in Comparative Example II, beginning in the specification at page 5, line 35.

Applicants respectfully submit that the invention is not disclosed or suggested in the applied references. The Yoshida reference discloses auxiliary heating means 6 that may be a ribbon heater or heating plate. Importantly, ribbon heaters and plate heaters are resistive heaters that rely on an

outside power source to supply an electrical current through lead-in wires to a resistive heating element. There is no suggestion in Yoshida that the auxiliary heating means may be inductively heatable. Applying inductive heating to resistive heaters will destroy the resistive heaters. Moreover, resistive heaters typically do not have the conductivity characteristics necessary for inductive heating elements.

Furthermore, in fieldwork, particularly in inclement weather conditions, resistive heaters have live wires that can be exposed to moisture and subsequently damaged. Exposed resistive heaters are prone to current losses, safety hazards, and wire shorts. The inductive heatable susceptor element of the present invention is generally in the form of a metal band that does not require an outside power source, and is weatherproof.

Applicants respectfully submit that it is not possible to modify Yoshida to use an induction generating susceptor element as the auxiliary heating means since this would effectively damage the Yoshida design. Applicants submit that this presents an important reason why the Yoshida design does not disclose, suggest, or teach an auxiliary induction heating means.

Shiozaki, U.S. Patent No. 5,504,308 describes synthetic resin tubes that are adapted to be bent into coils or crank shapes. There is no disclosure or suggestion in Shiozaki of an inductively heatable substrate and a coating, or of the steps of inductively energizing a susceptor element and substrate to cause a substrate and coating to be heated.

In Buckley, U.S. Patent No. 5,919,387, a plastic adhesive coated ring forms a susceptor element 50 that is placed within a cylindrical coupling. Again, there is no disclosure or suggestion of an inductively heatable substrate, a coating on an inductively heatable substrate, or a step of inductively energizing the susceptor element and the substrate to cause the substrate and coating to be heated.

As previously mentioned, combining Shiozaki or Buckley with Yoshida will destroy the Yoshida design. Consequently, applicants submit that the prior art does not teach, disclose, or suggest the present invention.

Applicants have also added new claims 16-18 to include with claim 1 the step of applying a covering on a weld joint and on mainline coatings adjacent the weld joint after inductively energizing the susceptor element and the substrate to cause the substrate and coating to be heated.

Applicants further submit that these additions are novel over the cited prior art. By applying these limitations (previously presented by claim 11, et seq.) applicants have further distinguished the invention of claim 1 over the prior art of Yoshida, Shiozaki, and Buckley.

In order to provide consistency of terminology, the second occurrence of "susceptor" in claim 1, line 3, and in claim 5, line 1, have been changed to --susceptor element--, and "element" in claim 1, line 6, has been changed to --susceptor element--.

It is respectfully submitted that the application has now been brought into a condition where allowance of the entire case is proper. Reconsideration and issuance of a notice of allowance are respectfully solicited.

Respectfully submitted,



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